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A47J 27/04 27/05

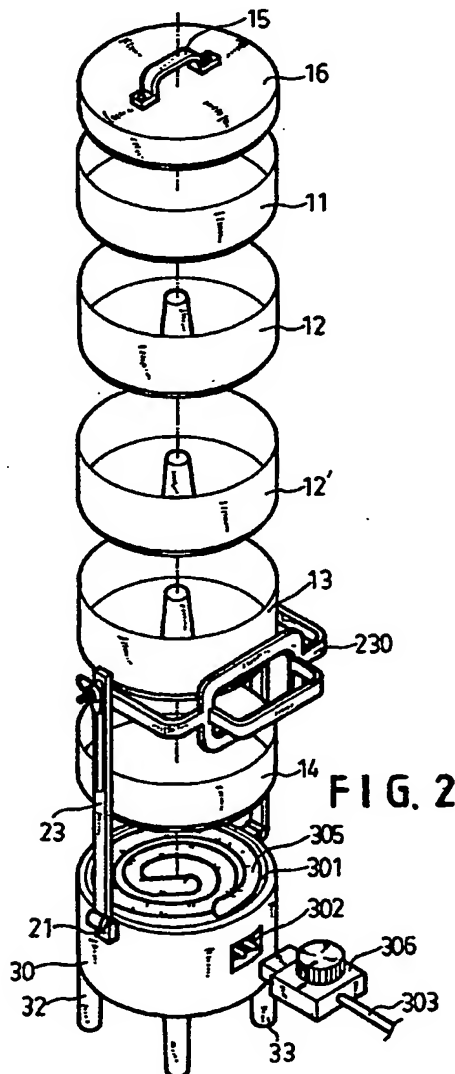
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None

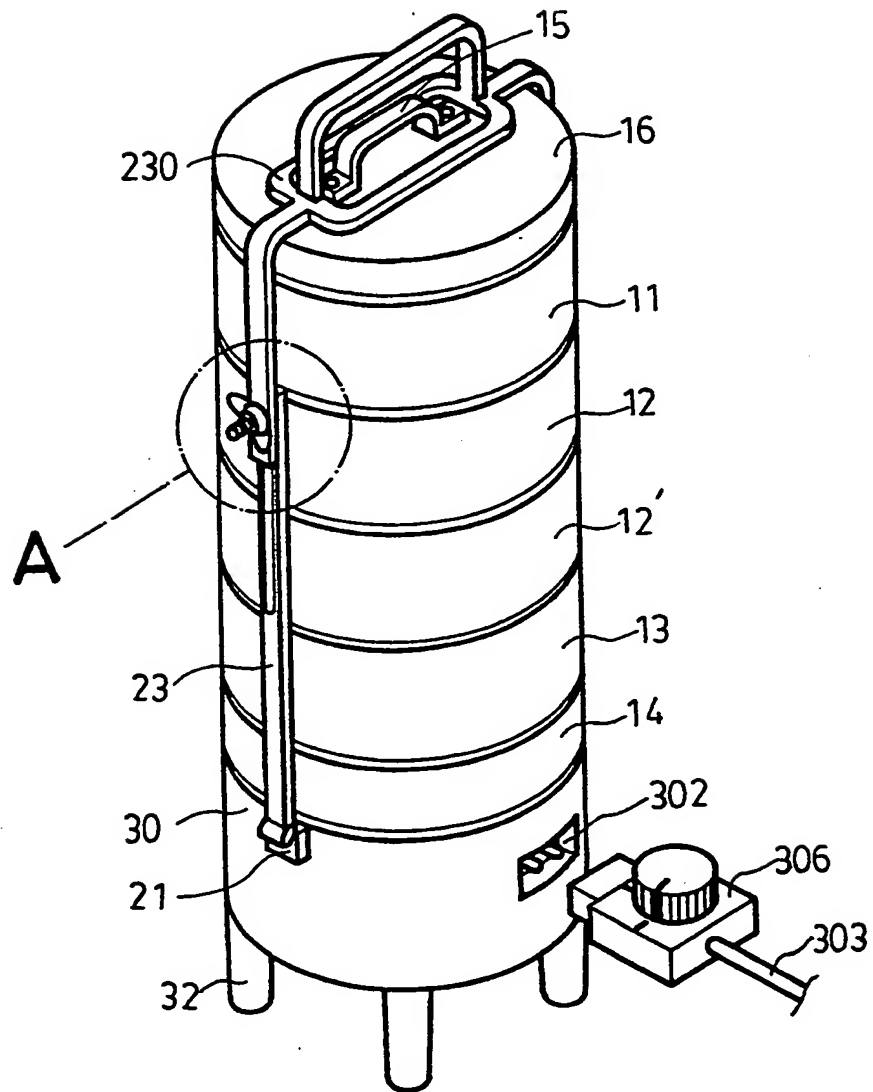
(58) Field of Search  
UK CL (Edition L) A4D D11  
INT CL<sup>5</sup> A47J  
ONLINE DATABASE: WPI

## (54) A steam case

(57) A steam case comprises an upper container 11 having a lid 16 first and second intermediate containers 12 and 12' respectively, the first engaged with the bottom of the upper container and the second engaged with the bottom of the first container both having tubular members (17, 17', fig. 3) at the center communicating the interior with the exterior thereof, a lower container 13 engaged with the bottom of the second intermediate container 12' and also having a tubular member 18, a tray 14 engaged with the bottom of the lower container 13, a body portion 30 mounted under the tray and having a recess thereon, a heating wire (301, Fig. 3) fitted on the recess of the body portion, a receptacle 302 mounted on the body portion, a timer 306 engageable with the receptacle, a plug (304, Fig. 3) connected with the timer via a power cord 303, and a rod member 23 binding the upper container, the lid, the first intermediate container, the second intermediate container, the lower container and the tray together.



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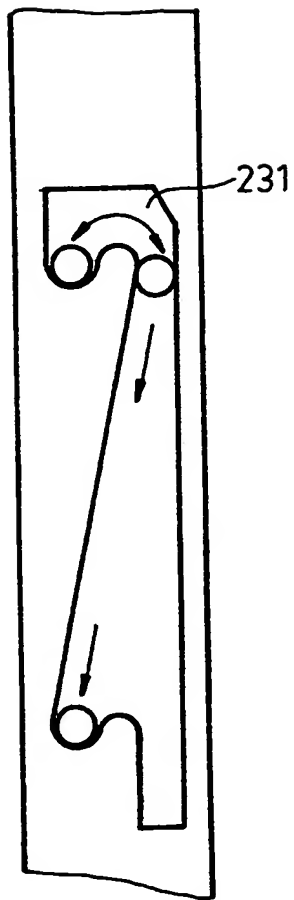


FIG. 1A

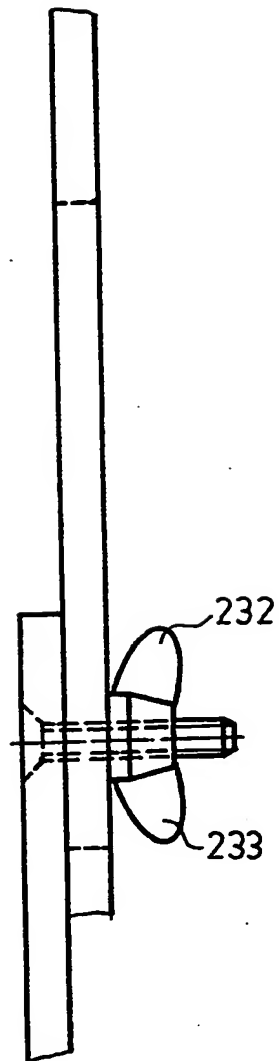
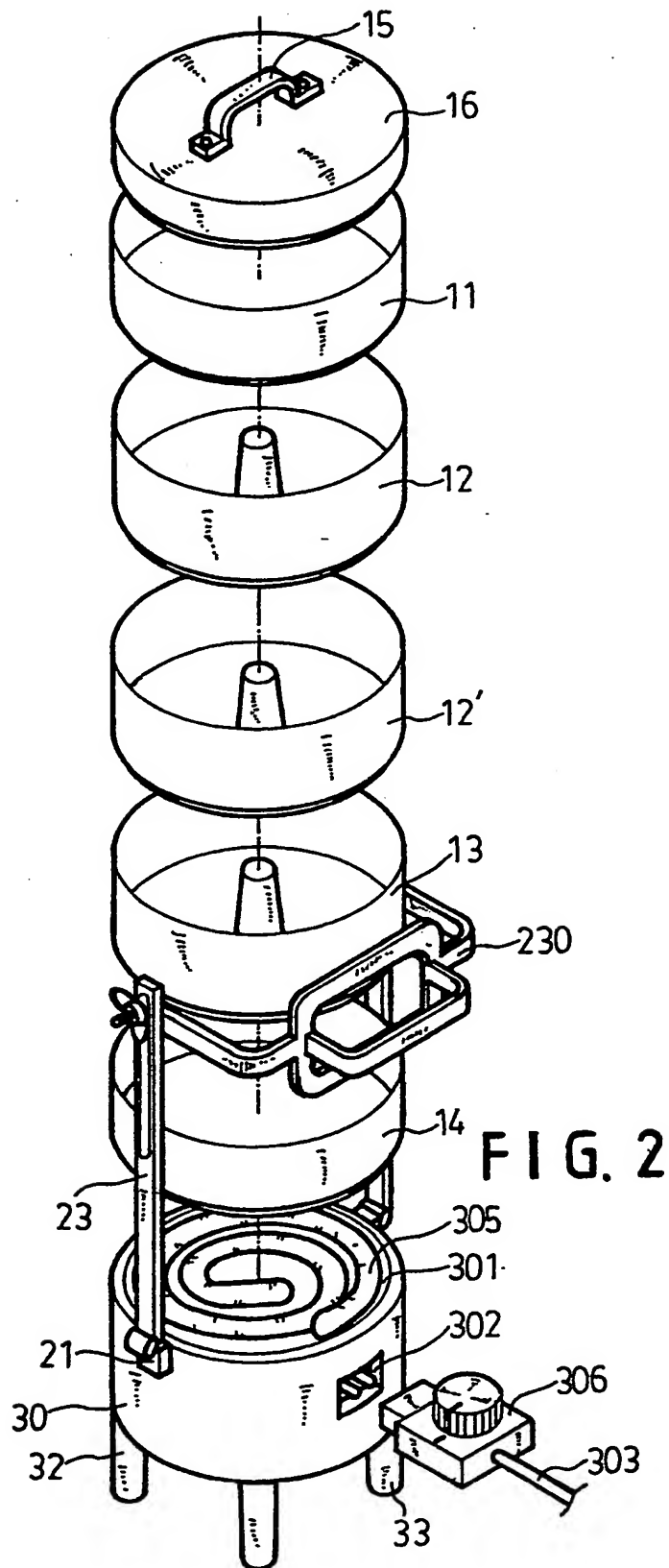
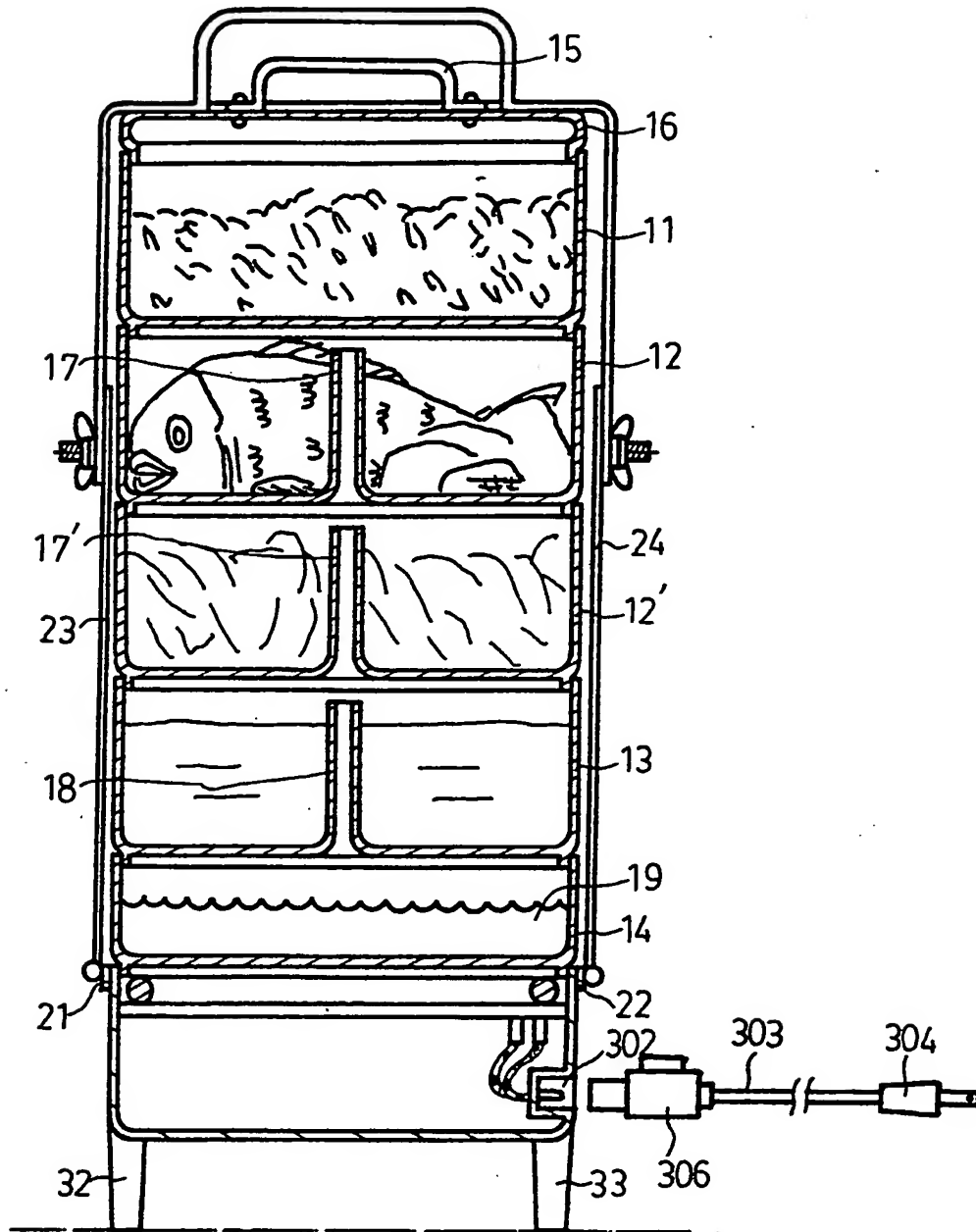


FIG. 1B





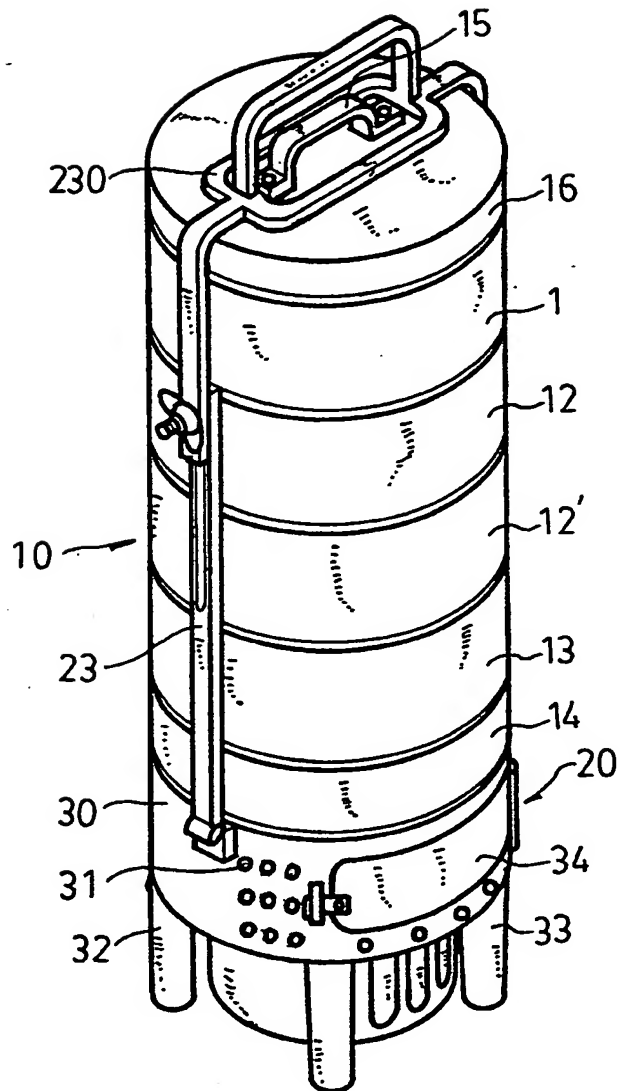


FIG. 4

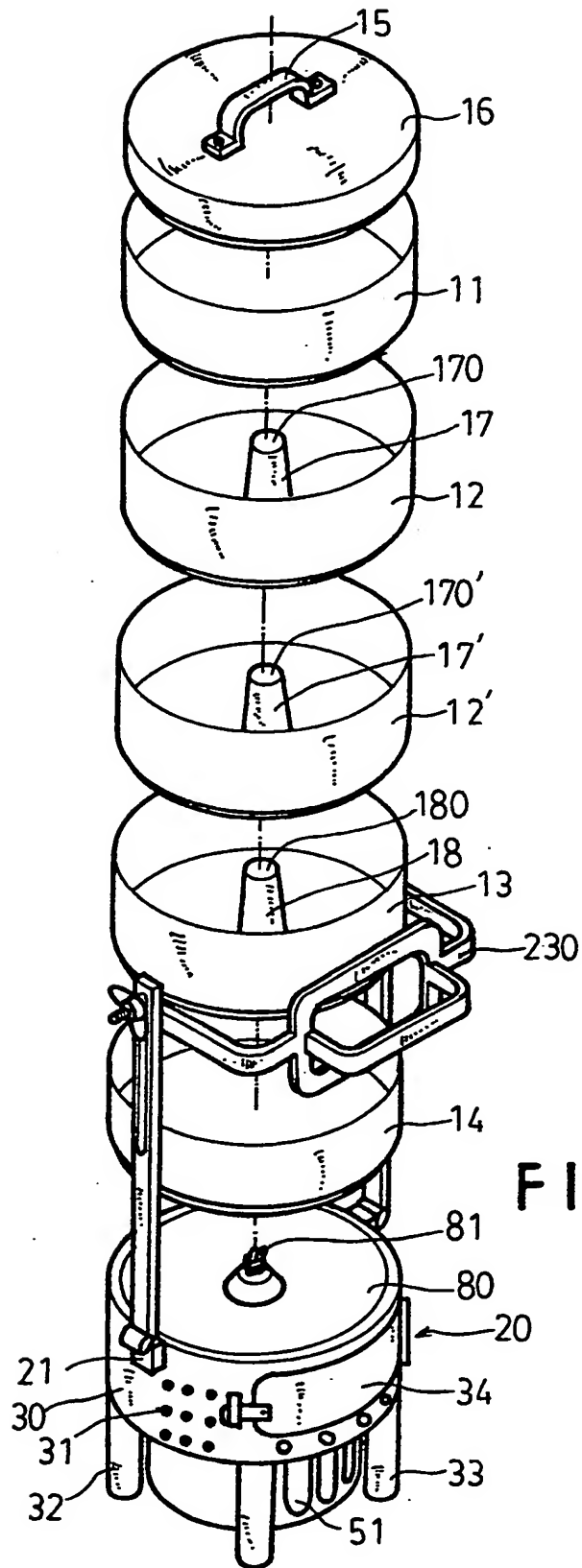


FIG. 5

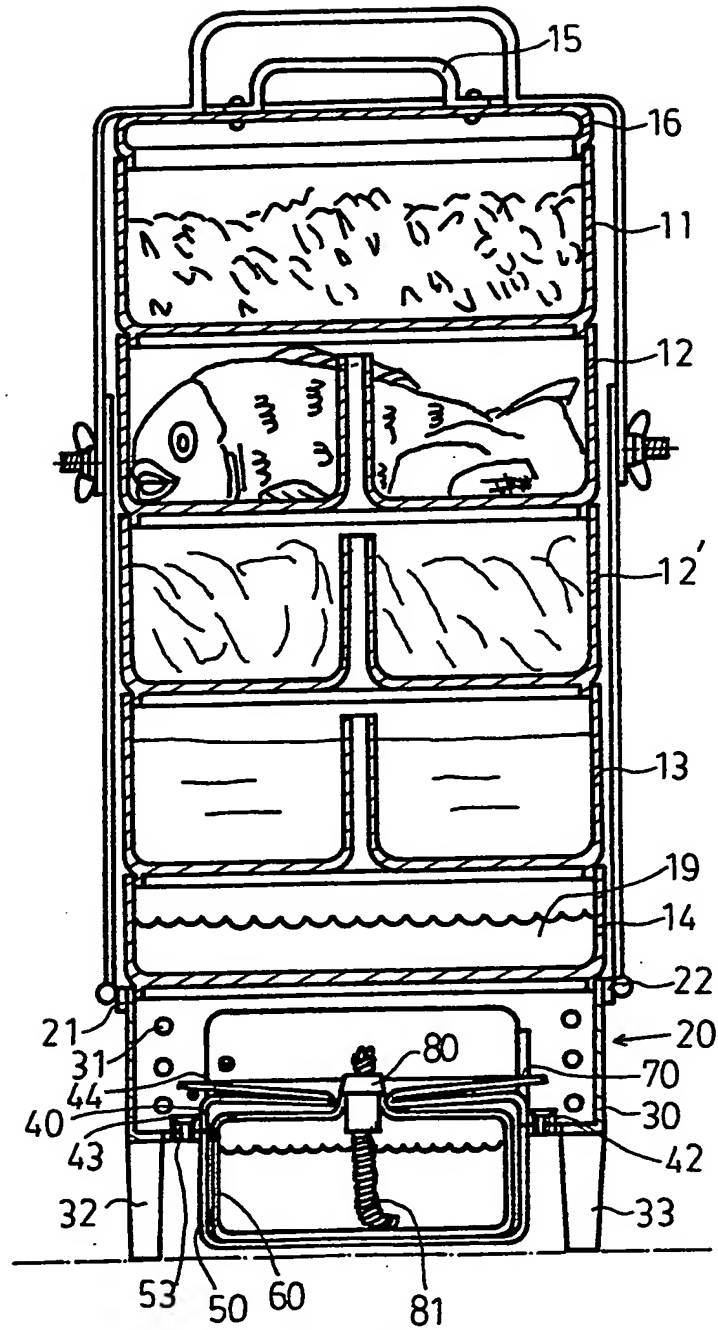


FIG. 6



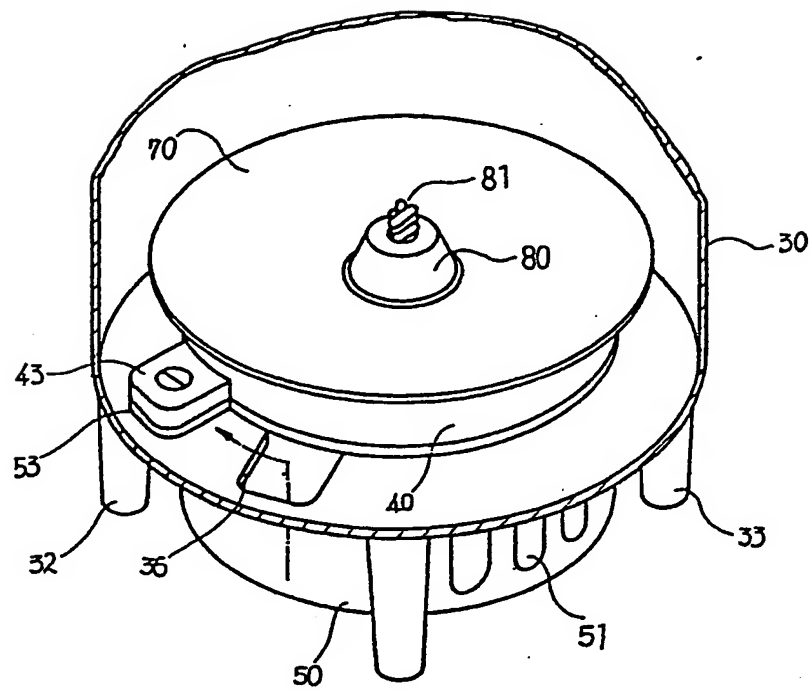


FIG. 7

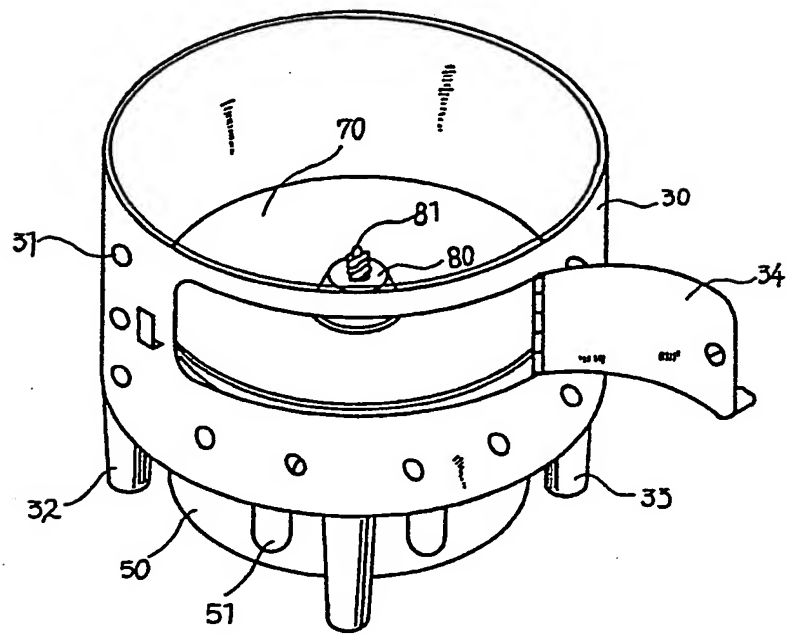


FIG. 8

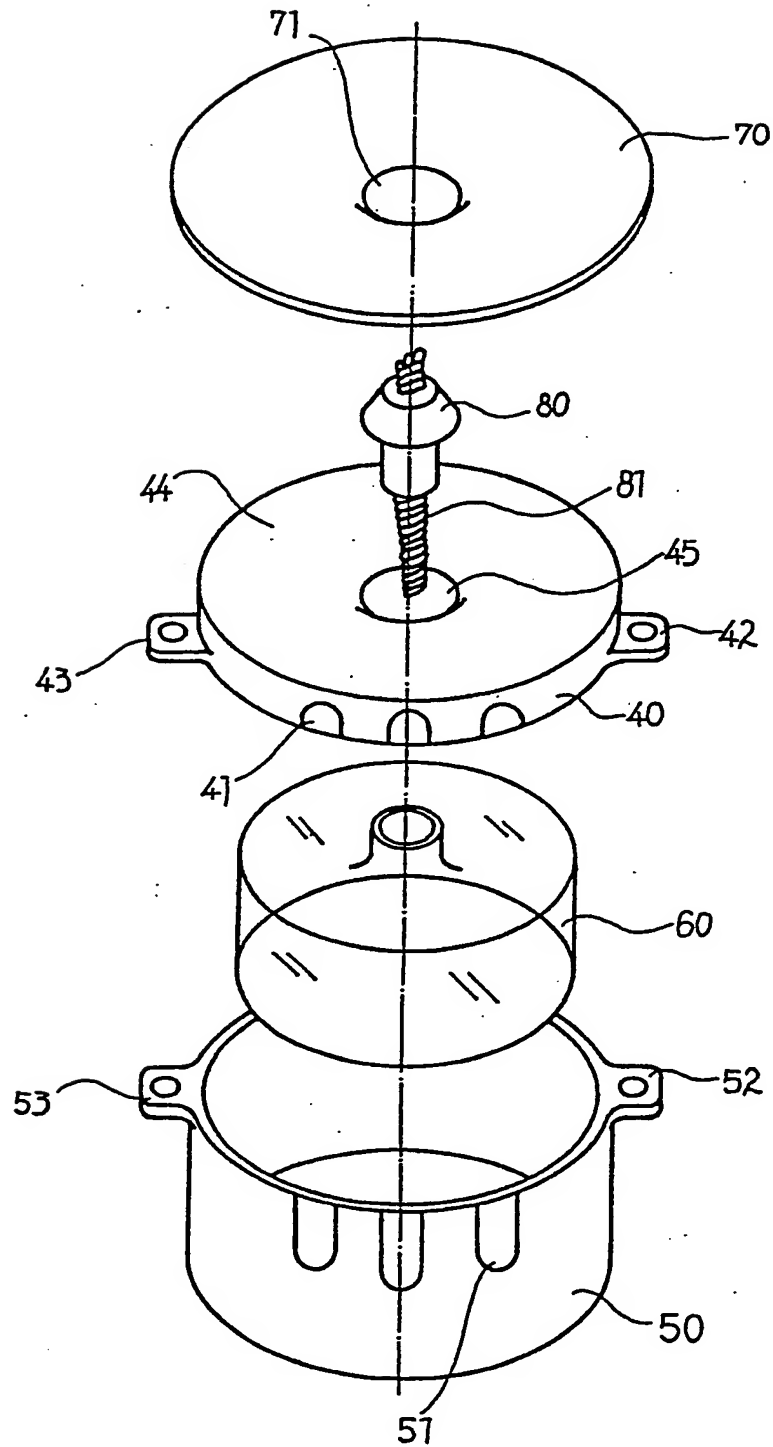


FIG. 9

TITLE: A STEAM CASE

This invention relates to an improved steam case.

It is the primary object of the present invention to provide a steam case which has a heating device.

5 It is another object of the present invention to provide a steam case which is convenient to carry.

It is still another object of the present invention to provide a steam case which is energy-saving.

10 It is still another object of the present invention to provide a steam case which is simple in construction.

It is a further object of the present invention to provide a steam case which is practical in use.

Other objects and merits and a fuller understanding to the present invention will be obtained by those having  
15 ordinary skill in the art when the following detailed description of the preferred embodiment is read in conjunction with the accompanying drawings.

FIG. 1 is a perspective view of the present invention;

20 FIG. 1A is an enlarged view of the portion A of the

present invention;

FIG. 1B is a side view of FIG. 1A;

FIG. 2 is an exploded view of the present invention;

FIG. 3 is a sectional view of the present invention;

5 FIG. 4 is a perspective view of a second preferred embodiment of the present invention;

FIG. 5 is an exploded view of the second preferred embodiment;

10 FIG. 6 is a sectional view of the second preferred embodiment;

FIG. 7 shows the structure of the combustion chamber according to the second preferred embodiment;

FIG. 8 is a perspective view of the combustion chamber with its cover opened according to the second preferred embodiment; and

15 FIG. 9 is an exploded view of the combustion chamber according to the second preferred embodiment.

For purpose to promoting an understanding of the principles of the invention, reference will now be made to

20 the embodiment illustrated in the drawings. Specific

language will be used to describe same. It will, nevertheless, be understood that no limitation of the scope of the invention is thereby intended, such alternations and further modifications in the illustrated  
5 device, and such further applications of the principles of the invention as illustrated herein being contemplated as would normally occur to one skilled in the art to which the invention relates.

With reference the drawings and in particular to  
10 FIGS. 1, 2 and 3 thereof, the steam case according to the present invention comprises a body portion 10 which has an upper container 11, a first intermediate container 12, a second intermediate container 12', and a lower container 13. The lower container 13 is provided with a tray 14 at  
15 the bottom. Under the tray 14 there is a heating chamber 20. The heating chamber 20 has two lugs 21 and 22 for connecting with two rod members 23 and 24 which are used to fix the upper container 11, the first intermediate container 12, the second intermediate container 12', the  
20 lower container 13, and the tray 14 in position. The rod

members 23 and 24 are connected with a frame 230 on the top ends. Further, the upper container 11 is provided with a lid 16 with a handle 15 on the top. In addition, the rod members 23 and 24 are respectively provided with slot 231 and 241 engaged with wing nuts 232 and screws 233 and the rod members 23 and 24 may be adjusted by regulating the wing nut 232 and the screw 233. Hence, the number of the containers may be adjusted as desired.

The first intermediate container 12, the second intermediate container 12', and the lower container 13 are provided respectively with tubular members 17, 17' and 18. The tubular members 17, 17' and 18 are formed with center holes 170, 170' and 180 which communicate the interior with the exterior of the tubular members 17, 17' and 18 so that the steam generated from the water in the tray 14 may go upwards.

The heating chamber 20 mainly comprises a body portion 30, a heating wire 301, a receptacle 302, a power cord 303, a plug 304, and a timer 306. On the body portion 30 there is a recess 305 for receiving the heating

wire 301. Further, the body portion 30 is provided with a plurality of legs 32 and 33 on the bottom and a receptacle 302 at one side thereof. The receptacle 302 is engageable with the timer 306 which is connected with the plug 304  
5 via the power cord 303. Besides, the timer 306 is provided with a pilot light (not shown) which will show the status of the steam case.

When in use (see FIGS. 1, 2 and 3), the upper container 11, the first intermediate container 12, the  
10 second intermediate container 12', the lower container 13 and the tray 14 filled with water are bound together by the rod members 23 and 24 into a cylindrical member. Then, the plug 304 is connected with a power supply hence causing current flowing through the plug 304, the power  
15 cord 303, the timer 305, the receptacle 302, and the heating wire 301. Hence, the water in the tray 14 will be gradually evaporated into steam which will be transmitted into the lower container 13, the first intermediate container 12, and the second intermediate container 12'  
20 through the tubular members 17, 17' and 18. In the



meantime, the upper container 11 will be heated. After a certain period of time set by the timer, the power supply is turned off. Then, the rod members 23 and 24 are loosened, the food received in the upper container 11, the  
5 first intermediate container 12, the second intermediate container 12' and the lower container 13 are ready to serve.

With reference to FIGS. 4, 5 and 6 thereof, the second preferred embodiment according to the present  
10 invention comprises a body portion 10 which has an upper container 11, a first intermediate container 12, a second intermediate container 12', and a lower container 13. The lower container 13 is provided with a tray 14 at the bottom. Under the tray 14 there is a combustion  
15 chamber 20. The combustion chamber 20 has two lugs 21 and 22 for connecting with two rod members 23 and 24 which are used to fix the upper container 11, the first intermediate container 12, the second intermediate container 12', the lower container 13, and the tray 14 in position. The rod  
20 members 23 and 24 are connected with a frame 230 on the

top ends. Further, the upper container 11 is provided with a lid 16 with a handle 15 on the top. The first intermediate container 12, the second intermediate container 12', and lower container 13 are provided with  
5 tubular members 17, 17' and 18 respectively. The tubular members 17, 17' and 18 are formed with center holes 170 and 180 which communicate the interior with the exterior of the tubular members 17, 17' and 18 so that the steam generated from the water in the tray 14 may go upwards.

10 Referring to FIGS. 7, 8 and 9, the combustion chamber 20 mainly comprises a body portion 30, an upper cover 40, a container 50, a grease container 60, a disc 70, and a plug 80. The body portion 30 is provided with a plurality of ventilation holes 30 and a plurality of legs 33.

15 Further, the body portion 30 has a closable gate 34 (see FIG. 5) on its vertical side for the passage of air. The upper cover 40 is formed with a plurality of slots 41 and two lugs 42 and 43, while the container 50 has a plurality of slots 51 and two lugs 52 and 53. In addition, the body  
20 portion 30 is provided with two openings 36 which are

slightly larger than the lugs 42 and 43 of the upper cover and the lugs 52 and 53 of the container 50 so that the upper cover 40 and the container 50 may be removed by aligning the lugs 42, 43, 52 and 53 with the openings 36.

5        The upper cover 40 is formed with a curved surface 44 on which there is a center hole 45. As may be seen in FIG. 9, a disc 70 with a V-shaped cross section is disposed on the curved surface 44 of the upper cover 40 and has a center hole 71. Hence, the head 80 may be  
10        mounted on the disc 70, with its wick 81 extending downwardly through the center hole 45 of the upper cover 40 and the center hole 71 of the disc 70 into the grease container 60.

When in use (see FIGS. 4 and 6), the upper container  
15        11, the first intermediate container 12, the second intermediate container 12', the lower container 13 and the tray 14 filled with water are bound together by the rod members 23 and 24 into a cylindrical member. Then, the gate 34 of the combustion chamber 20 is opened (see FIG.  
20        8) and the wick 81 protruded out of the head 80 is

ignited. Hence, the water in the tray 14 will be gradually evaporated into steam which will be transmitted into the lower container 13 and the intermediate container 12 through the tubular members 17 and 18. In the

5 meantime, the upper container 11 will be heated. After a certain period of time, put out the fire, loosen the rod members 23 and 24 are loosened, and the food received in the upper container 11, the intermediate container 12 and the lower container 13 are ready to serve.

10       The application of the present invention is too wide to be mentioned and cannot be all enumerated here in detail. It is understood that the present disclosure is made by way of example only and that numerous changes in the detail of construction and the combination of parts  
15 may be resorted to without departing from the spirit and scope of the invention as hereinafter claimed.

## CLAIMS:

1. A steam case comprising:
  - an upper container provided with a lid;
  - a first intermediate container engaged with a  
5 bottom of said upper container and having a  
tubular member at the center communicating the  
interior with the exterior thereof;
  - a second intermediate container engaged with a  
bottom of said first intermediate container and  
10 having a tubular member at the center  
communicating the interior with the exterior  
thereof;
  - a lower container engaged with the bottom of said  
intermediate container and having a tubular  
15 member at the center communicating the interior  
with the exterior thereof;
  - a tray engaged with the bottom of said lower  
layer;
  - a body portion mounted under said tray and having  
20 a recess thereon;

a heating wire fitted on the recess of said body  
portion;

a receptacle mounted on said body portion;

a timer engageable with said receptacle;

5 a plug connected with said timer via a power cord;  
and

a rod member binding said upper container, said  
lid, said first intermediate container, said  
second intermediate container, said lower  
10 container and said tray together.

2. A steam case comprising:

an upper container provided with a lid;

a first intermediate container engaged with a  
bottom of said upper container and having a  
15 tubular member at the center communicating the  
interior with the exterior thereof;

a second intermediate container engaged with a  
bottom of said first intermediate container and  
having a tubular member at the center  
20 communicating the interior with the exterior

thereof;

a lower container engaged with the bottom of said intermediate container and having a tubular member at the center communicating the interior with the exterior thereof;

a tray engaged with the bottom of said lower layer;

a body portion mounted under said tray and having a plurality of legs and a closable gate;

a combustion chamber mounted within said body portion, a grease container fitted into said base, a cover mounted on the top of said base, and a disc disposed on said cover; and a rod member binding said upper container, said lid, said first intermediate container, said second intermediate container, said lower container and said tray together.

**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

Application number

GB 9307474.8

-13-

**Relevant Technical fields**

(i) UK Cl (Edition L ) A4D (D11)

(ii) Int Cl (Edition 5 ) A47J

**Databases (see over)**

(i) UK Patent Office

(ii) ONLINE DATABASE: WPI

**Search Examiner**

DR C L DAVIES

**Date of Search**

9 JULY 1993

Documents considered relevant following a search in respect of claims 1-2

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
	NONE	



Category	Identity of document and relevant passages - 14 -	Relevant to claim(s)

### Categories of documents

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

**A:** Document indicating technological background and/or state of the art.

**P:** Document published on or after the declared priority date but before the filing date of the present application.

**E:** Patent document published on or after, but with priority date earlier than, the filing date of the present application.

**&:** Member of the same patent family, corresponding document.

**Databases:** The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).

DERWENT-ACC-NO: 1994-305020

DERWENT-WEEK: 199707

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TITLE: Container stack type pressure cooker - has adjustable number of rod interconnected containers, with top one covered by lid and bottom one lying above heating element

INVENTOR: PENG, Y C; PENG, Y

PATENT-ASSIGNEE: PENG Y C[PENGI] , PENG Y[PENGI]

PRIORITY-DATA: 1993GB-0007474 (April 8, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	
MAIN-IPC				
GB 2276810 A	October 12, 1994	N/A	025	A47J
027/04				
GB 2276810 B	January 22, 1997	N/A	001	A47J
027/04				

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
GB 2276810A	N/A	1993GB-0007474	April 8, 1993
GB 2276810B	N/A	1993GB-0007474	April 8, 1993

INT-CL (IPC): A47J027/04, A47J027/05

ABSTRACTED-PUB-NO: GB 2276810A

BASIC-ABSTRACT:

The steam cooker comprises an upper container (11) having a lid (16), two intermediate containers (12,12'), a lower container (13), and a tray (14). The first intermediate container is engaged with the bottom of the upper container and the second one with the bottom of the first container both having tubular members at the centre communicating the interior with the exterior. The lower container (13) is engaged with the bottom of the second intermediate container (12') and also has a tubular member. The tray (14) is engaged with the bottom of the lower container (13).

A base portion (30) is mounted under the tray and has a recess in it. A heating wire (301) is fitted in the recess. A receptacle (302) is mounted in the base portion for accepting a power cord (303) with a timer (306). The rod (23) holds the upper container, the lid, the two intermediate containers, the lower container and the tray together.

ADVANTAGE - Convenient to carry. Energy saving.

ABSTRACTED-PUB-NO: GB 2276810B

EQUIVALENT-ABSTRACTS:

A steam case comprising: an upper container provided with a liq; a first intermediate container engaged with a bottom of the upper container and having

a tubular member at the centre communicating the interior with the exterior thereof; a second intermediate container engaged with a bottom of the first intermediate container and having a tubular member at the centre communicating the interior with the exterior thereof; a lower container engaged with the bottom of the intermediate container and having a tubular member at the centre communicating the interior with the exterior thereof; a tray engaged with the bottom of the lower layer; a body portion mounted under the tray and having a recess thereon; a heating wire fitted on the recess of the body portion; a receptacle mounted on the body portion; a timer engageable with the receptacle; a plug connected with the timer via a power cord; and a rod member binding the upper container, the lid, the first intermediate container, the second intermediate container, the lower container and the tray together.

CHOSEN-DRAWING: Dwg.2/9 Dwg.1

TITLE-TERMS: CONTAINER STACK TYPE PRESSURE COOKER ADJUST NUMBER ROD  
INTERCONNECT CONTAINER TOP ONE COVER LID BOTTOM ONE LIE ABOVE HEAT  
ELEMENT

DERWENT-CLASS: P28 X27

EPI-CODES: X27-C04;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N1994-239869